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**REMARKS**

As an overview, Claims 1—37 are currently pending. Of these pending claims:

- A) Claims 1—12 remain in their original form; and
- 5 B) Claims 13—37 were previously withdrawn.

In view of the following remarks, Applicant respectfully requests reconsideration of the rejected claims.

**The §102 Standard**

10 According to the MPEP §2131, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. The identical invention must be shown in as complete detail as is contained in the claim.

15 Anticipation is a legal term of art. The applicant notes that in order to provide a valid finding of anticipation, several conditions must be met: (i) the reference must include every element of the claim within the four corners of the reference (see MPEP §2121); (ii) the elements must be set forth as they are recited in the claim (see MPEP §2131); (iii) the teachings of the reference cannot be modified (see MPEP §706.02, stating that "No question of obviousness is present"

20 in conjunction with anticipation); and (iv) the reference must enable the invention as recited in the claim (see MPEP §2121.01). Additionally, (v) these conditions must be simultaneously satisfied.

The §102 rejection of claims 1—6, 8, 11 and 12 is believed to be in error. Specifically, the PTO and Federal Circuit provide that §102

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anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. *In re Spada*, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990). The corollary of this rule is that the absence from a cited §102 reference of any claimed element negates the  
5 anticipation. *Kloster Speedsteel AB, et al. v. Crucible, Inc., et al.*, 793 F.2d 1565, 230 USPQ 81 (Fed. Cir. 1986).

The applicant notes the requirements of MPEP §2131, which states "to anticipate a claim, the reference must teach every element of the claim." This MPEP section further states that "'A claim is anticipated only if each  
10 and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.' *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). 'The identical invention must be shown in as complete detail as is contained in the ... claim.' *Richardson v. Suzuki Motor Co.*, 868  
15 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim, but this is not an ipsissimis verbis test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990)."

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**Traversal of the Section 102(b) Rejection of Independent Claim 1**

Claims 1—6, 8, 11 and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. App. No. 2001/0052920, hereinafter “Matsumoto”. In response, the Applicant respectfully traverses the rejection.

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**Claim 1** recites an ink drying system for a printer, comprising:

- an IR heating element;
- **a guide, to concentrate heat energy** from the IR heating element on print media; and
- a controller procedure to control operation of the IR heating element.

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The Applicant submits that the Matsumoto reference does not disclose “a guide, to concentrate heat energy”. In particular, Matsumoto discloses the use of IR laser diodes. Referring to FIG. 16A, an array of IR laser diodes 130 can be seen. The laser light emitted from the IR diodes is directed to a specific location on the print media. (See Matsumoto, FIGS. 16B—16E.) The specific location can be directly under the ink jet (see [0088] line 5), downstream of the ink jet head (see [0088] 12) or upstream of the ink jet head (see [0089] line 2). Referring to FIGS. 16B—16E, the IR lasers 130, 138 and 144 are aimed at a desired location of the media. (See Matsumoto at [0102] and [0103].)

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Therefore, Matsumoto uses precisely directed lasers to heat the print media, under, upstream or downstream of the location to which ink has been applied. As seen in FIGS. 16B—E, the lasers direct energy to the intended location without a guide to concentrate heat energy.

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The Patent Office suggests that Matsumoto discloses the guide recited by Claim 1. The Applicant respectfully disagrees, and traverses the rejection.

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The Patent Office fails to specifically point to any location within Matsumoto wherein the guide to concentrate heat energy is disclosed. In response, the Applicant has searched the Matsumoto reference. As a result of the search, the Applicant believes that Matsumoto does not disclose “a guide to concentrate heat energy”. Instead, Matsumoto discloses that IR lasers are precisely directed to the print media, without the use of a guide to concentrate heat energy.

Therefore, the Applicant respectfully requests that the Patent Office remove the section 102 rejection of Claim 1, and allow Claim 1 to issue.

Claims 2—12 depend from Claim 1 and are allowable due to their dependence from an allowable base claim. These claims are also allowable for their own recited features that, in combination with those recited in Claim 1, are not disclosed in the Matsumoto reference.

### The §103 Standard

To establish a *prima facie* case of obviousness, three basic criteria *must* be met. MPEP § 2142. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992); *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Second, there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

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Hence, when patentability turns on the question of obviousness, the search for, and analysis of, the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine or modify the references relied on as evidence of obviousness. The need for specificity pervades this authority. See, e.g., *In re Kotzab*, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) ("particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed").

10      **Traversal of the §103 Rejections**

Claims 1—12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. App. No. 2003/0222960, hereinafter "Takabayashi" in view of U.S. App. No. 2001/0052920, hereinafter "Matsumoto". In response, the Applicant respectfully traverses the rejection.

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Claim 1 recites an ink drying system for a printer, comprising:

- an IR heating element;
- a guide, to concentrate heat energy from the IR heating element on print media; and
- 20      • a controller procedure to control operation of the IR heating element.

**The Takabayashi Reference:**

The Applicant submits that the Takabayashi reference does not disclose "an IR heating element". In particular, Takabayashi discloses the use of UV, and does not disclose the use of IR. (See Takabayashi at [0081]). UV and IR are different, and reside on opposites sides of the visual light spectrum.

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To ensure that UV is available, and that other wavelengths are not present, Takabayashi discloses the use of a filter “which transmits the ultraviolet ray in the specific wavelength region.” (See Takabayashi at [0081] lines 4 and 5.)

Accordingly, because Takabayashi teaches filtering out non-UV frequencies,

5 Takabayashi teaches away from non-UV wavelengths, such as IR (infrared).

The Patent Office suggests that Takabayashi discloses the use of IR (infrared), and points generally to FIGS. 1—4. However, a review of these figures indicates that a UV unit 24 is configured to transmit UV frequencies. Moreover, Takabayashi teaches the use of a filter to restrict output to the UV range.

10 Therefore, the Takabayashi reference fails to teach or suggest the use of IR in heating print media or inks. By filtering all but the UV light, Takabayashi actively teaches away from the use of IR light. Accordingly, the Applicant respectfully requests that the Patent Office remove the section 103 rejection of Claim 1.

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Combining the Takabayashi and Matsumoto References:

The Matsumoto reference discloses the use of IR light. The Takabayashi reference discloses the use of optical fibers 11a and 11b (seen in FIG. 3 and discussed at [0062]), which direct UV light to positions on the print media  
20 adjacent to the ink-jet recording head. The Patent Office does not explicitly suggest that the IR light from Matsumoto could be combined with the optical fibers of Takabayashi. However, assuming arguendo that this was the intention of the Office, and acting to advance prosecution of this application, the Applicant

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respectfully submits that the Patent Office has failed to establish a *prima facie* case of obviousness.

The Applicant submits that there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of  
5 ordinary skill in the art, to modify either reference or to combine the teachings of the references.

First, the Applicant submits that the Matsumoto system works just fine with the IR lasers, which can be pin-pointed to any desired location. Therefore, there is no motivation for Matsumoto to adopt a light fiber system to guide the IR to the  
10 print media.

Second, the light fiber system of Takabayashi is unlikely to successfully provide the heat that Matsumoto needs. This is a reasonable assumption because *Takabayashi is not using the light fiber system to provide heat.* In fact, the Takabayashi disclosure uses UV light not to heat the ink, but to promote a  
15 chemical reaction. See [0020] to [0022] and onward, where Takabayashi discusses "active ray-hardenable ink". However, Takabayashi also teaches the application of heat. Note that Takabayashi discloses heater 9 to provide heat (see FIG. 3 and the first line of [0064]). Accordingly, the UV system is for chemical reaction reasons, not for heat. That is, the heater 9 provides any needed heat,  
20 while the optical fibers 11 provide the UV so that the active ray hardenable ink will react. (See [0065] for a discussion about the need for UV, while using the heat from heater 9.) Thus, since Takabayashi isn't using the UV for heat, there is no suggestion or motivation for Matsumoto to use part of Takabayashi's UV system to apply heat in the Matsumoto system. In fact, because Takabayashi has

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to use an extra heater 9, Takabayashi's guides (UV tubes 11a and 11b) wouldn't work as a heat source for Matsumoto.

In summary, Matsumoto teaches the use of IR lasers, but does not teach or suggest the use of a guide. Takabayashi teaches the use of optical fibers to deliver  
5 UV to recently deposited ink. However, since Takabayashi's optical fibers fail to deliver sufficient heat for Takabayashi's system (which requires heat source 9), it is unlikely that Matsumoto's system would work with Takabayashi's optical fibers. Thus, there is no motivation to combine the teachings of Matsumoto and Takabayashi. Moreover, it is unlikely that a combination of Matsumoto's IR and  
10 Takabayashi's light fibers would function to provide the heating that Matsumoto needs. Therefore, there is no motivation to combine, and no expectation of success if the combination was made. Accordingly, the Applicant respectfully requests that the section 103 rejection of Claim 1 be removed.

**Claims 2—12** depend from Claim 1 and are allowable as depending from  
15 an allowable base claim. These claims are also allowable for their own recited features that, in combination with those recited in Claim 1, are neither taught nor suggested in references of record, either singly or in combination with one another.

20        **Conclusion**

The arguments presented above are intended to present the Applicant's position clearly, but should not be considered exhaustive. Accordingly, the Applicant reserves the right to present additional arguments to clarify the Applicant's position further. Moreover, the Applicant reserves the right to

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challenge the status as prior art of one or more documents cited in the Office Action.

The Applicant submits that the claims as presented are in condition for allowance. Accordingly, the Applicant respectfully requests that a Notice of Allowability be issued. If the Patent Office's next anticipated action is not the issuance of a Notice of Allowability, the Applicant respectfully requests that the undersigned attorney be contacted to schedule an interview.

Respectfully Submitted,

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